MONTANA
Department of Public Health & Human Services

Oral Health Education Grade 5

Objectives:

I. Importance of taking responsibility for personal and oral health care
II. Appearance includes teeth--review different functions of teeth
III. Prevention of cavities and gum disease
IV. Proper brushing and flossing
V. Correctly define four common symptoms of periodontal disease (halitosis, caries, bleeding, and gingivitis)
VI. Nutrition

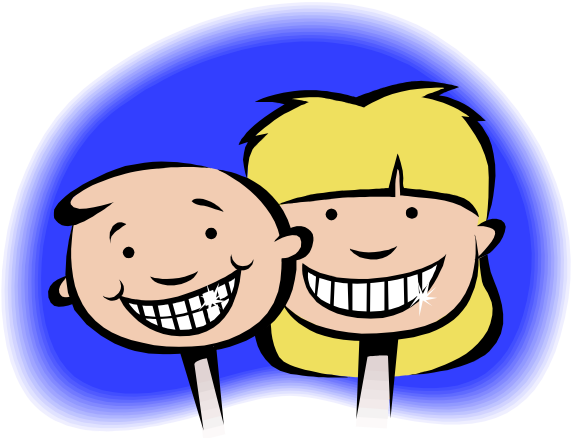
Materials for this learning module were compiled from the following sources:

American Dental Association, *Smile Smarts* program
United States Department of Agriculture, *My Pyramid for Kids* program
State of North Carolina, Division of Public Health, Oral Health Section
State of Connecticut, Connecticut Cares About Oral Health
State of Montana, Department of Public Health & Human Services, Family & Community Health Bureau

Activities are optional and should be used at the discretion of the school/organization.

For additional resources, visit:

http://www.ada.org/public/education/teachers/ideas.asp#classroom
http://teamnutrition.usda.gov/resources/mypyramidclassroom.html
http://www.vahealth.org/dental/oralhealtheducation/training.htm
http://www.communityhealth.dhhs.state.nc.us/dental/
http://ctschoolhealth.org/Resources/CT%20Oral%20Health%20Curriculum%20Final.pdf



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I. Importance of personal and oral health care

Personal appearance. Let's make a list of things that help a person be more attractive. I don't mean good looking or popular; I'm looking for ideas about what makes people of any age attractive. [List on chalkboard: Personality attributes like friendliness, intelligence, confidence; Physical attributes like their smile, cleanliness, being physically fit, having good health.]

Value. Discuss what makes something valuable. [Write down all answers that apply to teeth: can't be replaced, good quality, lasts a long time, looks nice.] What about your teeth? Are they valuable? [Get opinions.] What do your teeth help you do?

The benefits of a nice smile. Since we are going to be talking about teeth and good oral health in a few minutes, let's talk a little more about having an attractive smile. What does it take to get and keep a nice smile? [Keep teeth clean by brushing and flossing, visit your dentist, eat nutritious foods, don't smoke.] Yes, all those things affect your smile, your teeth, your health and your appearance.

Healthy teeth are part of being in top physical shape. Did you know that the United States Olympics Team has a program to assist athletes in keeping their mouths healthy? Obviously, an athlete with a dental problem may not play well for the team.

Math Challenge Question: Are teeth a good quality product? (Give the calculator to a volunteer.) Here's the question: If you have your adult teeth for 60 years, and you eat three meals a day, how many times in your life will you use your teeth to chew food? [60 years x 365 days a year x 3 times a day = 65,700.] 65,700 chewing workouts — and that's if you don't eat snacks between meals! Now, just for fun, let's say that it takes ten minutes to eat a meal, and that you chew your food fifty times a minute. Can you figure out how many times your teeth would chew during those 65,700 workouts? [10 minutes x 50 chews/minute x 65,700 meals = 32,850,000 chews.] 32,850,000 chews! That's almost 33 million times for each tooth! Do you think your teeth are a good quality product? You bet!

Good oral health habits play a big part in having a nice smile, speaking well, being able to eat properly and having confidence.

What happens if teeth are not cared for? So taking care of your teeth sounds like a smart idea. What happens to your teeth if you don't take care of them? [Bad breath, stains, cavities, swollen gums, maybe tooth loss.]

What a cavity is. None of those things sound very appealing. Let's talk about cavities and what causes them. What is a cavity? [A little hole in your tooth.] Right. A cavity is another name for tooth decay. What happens when something decays? [Gets rotten, falls apart, loses strength.] It's no different with your teeth. When your teeth decay, they lose their strength. The decay can spread throughout your tooth.

A cavity is a small hole in a tooth, also known as tooth decay.

What plaque is. Does anyone remember what causes cavities? [You may get a variety of answers, but they may not include plaque.] Those are all interesting answers, but there is one thing that plays a big part in causing decay, or cavities, in your teeth. It is called "plaque." Sound familiar? If you don't brush your teeth before going to bed at night, how does your mouth feel when you wake up in the morning? [Tastes bad, smells bad, teeth feel sticky.] That is because plaque has been forming in your mouth all night. Plaque is a sticky, clear film that is forming on your teeth 24 hours a day.

Plaque is a sticky, clear film that is constantly forming on your teeth.

How plaque contributes to decay. When you eat or drink foods containing sugars and starches, the bacteria (germs) in plaque produce acids that attack tooth enamel. The stickiness of the plaque keeps the harmful acids against the teeth. After many such attacks, the tooth enamel — the hard outer layer of each tooth — breaks down and a cavity forms. Each acid attack can last as long as 20 minutes, making cavities bigger and bigger. So, do any of you think you have plaque on your teeth right now?

Activity:

1. Hand out anti-bacterial wipes and then have students scrape their teeth with fingernail to see if there is any white stuff. Hand out extra wipes after they have scraped their teeth.

II. Review different teeth, shapes and functions

Type, Shape and Function of Teeth

There are several different types of teeth. Each has its own job.

INCISORS:	8 front teeth 4 on the top and 4 on the bottom. Shaped for biting and cutting.
CUSPIDS:	4 teeth located on either side of the incisors. 2 on the top and 2 on the bottom. Shaped for tearing food.
BICUSPIDS:	8 located behind cuspids. 4 on the top and 4 on the bottom. Shaped for crushing food.
MOLARS:	8 - Double rooted teeth with bumpy chewing surfaces. 4 on the top and 4 on the bottom. Shaped for grinding food.

ACTIVITIES

1. Take Tooth Type and Function Quiz
2. Print Tooth Model on card stock and have students build models of their mouths. Can color the different tooth types different colors.)
3. Have students count their own teeth noting number, size and shape. and make their tooth model match their own mouth
4. Have students bite into pieces of cheese or apples and note marks left in the food.

III. Prevention of cavities and gum disease

Suggested Introductory Activity:

1. Involve the students in a "Dental Health Quiz." Each student will need paper and pen or pencil.

- If you brushed after breakfast this morning, give yourself two points.
- If you visited your dentist in the last year, give yourself two points.
- If you had no cavities at your last visit to the dentist, give yourself two points.
- If your toothbrush is less than four months old, give yourself two points.
- If you haven't had a soda pop, candy bar or other sweet snacks today, give yourself two points.
- If you have 8 or 1O points, you've done a great job! These are important things to do to protect your smile. Today you will find out why.

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What is Fluoride?

- A mineral that helps strengthen tooth enamel — and repair damaged enamel.
- Helps enhance tooth strength with the body's own minerals, such as calcium.
- Protects teeth from acid attack.
- Inhibits bacteria in plaque from producing acid.
- Children can get fluoride through:
  - Water
  - Fluoride supplements (usually tablets)
  - Professional fluoride treatments
  - Fluoride gels, rinses, toothpastes

Egg experiment with Fluoride: Conduct experiment to show the power of fluoride and the effect of acid on tooth enamel.

Background: The egg serves as a model for a tooth. The shell of an egg is hard like the outer surface of a tooth but is soft on the inside like a tooth. A model is not identical to the real object but we can still learn from the information gathered during the experiment. Using models can help us make predictions about real life situations. Ask: Can you think of any other experiments that are done using models? (crash test dummies, medicines on mice, etc.)

This experiment simulates the protection power of fluoride.

What you'll need:

- 1 bottle of fluoride rinse solution (available at most drug stores)
- 2 eggs
- 1 bottle of white vinegar
- 3 containers

What to do:

Pour four inches of fluoride rinse solution into one of the containers and then place an egg in the solution. Let it sit for five minutes. Remove the egg. Pour four inches of vinegar into each of the remaining two containers. Put the egg that has been treated with the fluoride into one container of vinegar and the untreated egg in the other container of vinegar.

What will happen:

One egg will start to bubble as the vinegar (an acid) starts to attack the minerals in the egg shell. Which egg do you think will start to bubble? This shows the protective benefits of fluoride. The fluoride solution has made the egg shell more resistant to the acid attack. This demonstrates the effectiveness of fluoride to strengthen tooth enamel and make it more resistant to decay. Be sure to throw away the eggs after you're finished.

Floss every day. Brushing and flossing will break up the bacteria and sugar team so they cannot attack your teeth and fluoride in toothpaste strengthens the tooth enamel and makes teeth less likely to decay.

Dental Sealants

What is a sealant? It is a clear, tinted or tooth-colored plastic coating that a dentist can apply to the chewing surfaces of teeth. This sealant can protect the chewing surfaces of the back teeth and can prevent decay from developing. The molars have natural grooves and depressions where plaque and food particles can collect. The bristles of a toothbrush sometimes fail to reach these tiny pits and fissures, because some are too small for even **one** toothbrush bristle to reach inside! This is where sealants help. The dentist can carefully clean the chewing surfaces of your teeth and then apply a sealant. **Sealants are not designed to replace brushing, flossing and seeing the dentist on a regular basis.** Studies have shown that sealants can effectively reduce tooth decay, and are approved by the American Dental Association.

Activity: A science sealant experiment: Materials: rubber cement, chalk, food coloring, paper towel. Have students work in small groups. Give each group a paper towel, a piece of chalk, a bottle of rubber cement, and some food coloring. Have the students paint one end of the chalk with rubber cement and give it a minute to dry. Then have them lay the chalk on the paper towel. Have the students carefully drop one drop of food coloring on the uncoated end of the chalk. Discuss what happens. The food coloring is absorbed. Have them place one drop of food coloring on the coated end. Then describe what happened. The rubber cement acts as protection for the chalk. It would not let the food coloring through. The sealant acts much like this when it is applied to your tooth. It won't let the acid through the enamel of the tooth; it seals your tooth.

Activity: A sealant art project: Have students draw a large picture of a tooth on a sheet of white construction paper. Students then trace over every line with a liberal amount of glue. The glue must be clear when it dries. Put the drawings aside to dry. After the glue outlines have dried, have the students color the drawings with pastel chalks. The entire sheet should be colored. Students will note that the chalk adheres to the paper, but not to the outlines made with glue. In a similar manner, the sealant covers the chewing

IV. Review proper brushing and flossing

(use handouts)

V. Correctly define four common symptoms of periodontal disease (halitosis, caries, bleeding, and gingivitis)

The word periodontal literally means "around the tooth." Periodontal diseases, also called gum diseases, are serious bacterial infections that destroy the gums and the surrounding tissues of the mouth. Dental caries, or cavities, in the tooth affect only the tooth. Periodontal disease affects the bones around the tooth, the gums, the coverings of the roots of the teeth, and the membrane of the tooth.

Caries

Tooth decay is a destruction of the tooth enamel. It occurs when foods containing carbohydrates (sugars and starches) such as milk, pop, raisins, cakes or candy are frequently left on the teeth. Bacteria that live in the mouth thrive on these foods, producing acids as a result. Over a period of time, these acids destroy tooth enamel, resulting in tooth decay.

Bleeding gums

Swollen gums in children are a sign that something is wrong. Swollen gums may have get ignored and quickly turn into bleeding gums and gingivitis. Usually it is not until the toothbrush may turn a bit red that someone stops and notices all is not well. If the inflammation is left untreated, the disease will continue and the underlying bones around the teeth will dissolve and will no longer be able to hold the teeth in place.

Gingivitis

Gingivitis is caused by a chronic buildup of plaque around the teeth and is characterized by a red, sometimes swollen appearance of the gums immediately around the necks of the teeth. It is easily cured by good oral hygiene, but left untreated, it generally leads to periodontal disease and eventual loss of the teeth. Gingivitis is not contagious.

Halitosis

Bad breath is a chronic problem for persons with periodontal disease. However, periodontal disease is not the only cause of bad breath. Ask students why they think people with periodontal disease

What causes **periodontal disease**?
As with many other oral health diseases, bacteria and plaque build-up is often the culprit. In fact, plaque build-up is the leading cause of gum disease.

Activity: A "garbage garden": Children place approximately one inch of dirt in a clear plastic cup, then place bits of food from their lunch kits or cafeteria on top. This is sealed with a clear plastic wrap & set in a warm place. Students can see how "decay" progresses daily & keep a chart of their observations. Students must understand that the mold in the cups is not growing in their mouths. The mold is breaking down the bits of food. Point out that the odor results from the decay process. Bad breath can also be a symptom of decay.

Recognizing and eliminating behaviors that can harm teeth: What are some choices that you may have to make-either now or as you get older-that can affect your teeth and mouth? Examples include: mouth piercing, mouth jewelry, smoking, chewing tobacco, eating too much junk food and drinking too much soda and sports drinks, and not visiting the dentist. Don't chew on hard objects like pencils, ice cubes or hard candy. Your teeth are made to last a lifetime, but all of these can chip or crack your teeth.

Activity: Offer each student an Oreo cookie or 2 with no drink. Have them look in mirror after eating to see teeth. Offer an apple slice or two and revisit mirror. Teeth should be cleaner. Point out that certain foods stick to our teeth more and we should brush more after sweets and sticky foods or only eat them with meals to limit their sticking to our teeth.

Mouth jewelry can result in infections and damage teeth and gums. Many of you may see celebrities, musicians, and sports figures with mouth jewelry including grillz, piercings, and tongue studs. You might think pierced lips and tongues are attractive, or you might not, but you probably don't know just how dangerous these piercings can be. What do you think can happen to your teeth and mouth from piercings and other mouth jewelry? (List on chalkboard: mouth sores and infections; chipped or cracked teeth; you can choke.) That's a good start, but it gets worse! Your mouth contains millions of bacteria, and infection and pain often occur with mouth piercing. Your mouth and tongue can swell up large enough to close off your airway. Piercing can also cause nerve damage and uncontrollable bleeding. You can choke on parts that come off in your mouth, and you can crack your teeth if you bite down on the jewelry. Mouth piercing is a decision that goes way past looking fashionable- it can have a big effect on your health!

- can view PowerPoint presentation at http://www.vahealth.org/dental/oralhealtheducation/training.htm and select "Mouth Jewelry--It's Not as Simple as You Think"

Tobacco is very dangerous, not only for your teeth, but for your mouth and entire body. ALL tobacco is bad for your health, not just cigarettes and cigars. Smokeless tobacco, also called chew, snuff, dip or spitting tobacco, has become a very serious health problem for teens and young adults today. You know that smoking cigarettes can eventually kill you. You may not know that smokeless tobacco can cause mouth, tongue and lip cancer, and can be more addictive than cigarettes. Tobacco products also stain your teeth and cause gum disease and tooth loss. That certainly won't help your appearance any! Listen to these statistics: 1.) Approximately 28,000 people were diagnosed as having oral (mouth) cancer last year. Many of them probably thought they were safe because they used smokeless tobacco. Wrong! 2.) About 7,200 people will die from mouth cancer this year, caused by smokeless tobacco! AND-tobacco products cost a lot of money! Bottom line: There is nothing good to say about tobacco products. Never starting is your best defense against all the health problems related to tobacco.

Mouth guards. There is a good habit you can get into that will help protect your teeth from getting broken or knocked out. Does anyone know what I'm thinking of? I'll give you a hint. You use it for active sports. That's right! A mouth guard. How many of you have ever worn a mouth guard? A mouth guard is a piece of soft, molded plastic that covers your upper teeth. Your dentist can make one that fits your teeth exactly, or you can buy an unshaped mouth guard that can be softened in boiling water and then shaped to fit over your teeth.

Why is it so important to use a mouth guard? (Because if you lose your permanent teeth, new ones will not grow in to replace them.) Do you know anyone who has had teeth knocked out during sports? Will those teeth ever grow back? Mouth guards also help prevent injuries to your lips, face and jaw. Wearing a mouth guard is very smart even if you don't think it's a great fashion statement!

Plaque and Decay

Plaque—a nearly colorless film on teeth, contains acid-producing bacteria that cause decay.

- Each time we eat foods with sugar or starch, these bacteria produce acids that attack tooth enamel for at least 20 minutes.

Decay—after repeated attacks, a hole (or cavity) can form through dissolved enamel. You can help prevent decay and cavities through:

- Daily brushing, flossing and rinsing
- Healthy eating
- Regular dental checkups

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Scientific Method: Egg Experiment with Fluoride

Ask a Question

What creates an acid attack in your mouth? _____

_____

What do you think happens to your teeth when there are acids in your mouth?_____

_____

Do Research-- Review information on acid attacks on your teeth.

Observe the eggshell. Is it hard or soft? How is the egg like a tooth?_____

Construct a Hypothesis

"If _____*[I do this]* _____, then _____*[this]*_____ will happen."

We hypothesize that the eggshell coated with fluoride will _____

We hypothesize that the eggshell without fluoride will _____

Test Hypothesis by conducting an experiment (conduct egg experiment)

Date and time investigation started _____

Date and time finished:_____

Analyze your data and draw a conclusion

Results

Eggshell with fluoride:_____

Eggshell without fluoride: _____

Conclusion: _____

Communicate your results

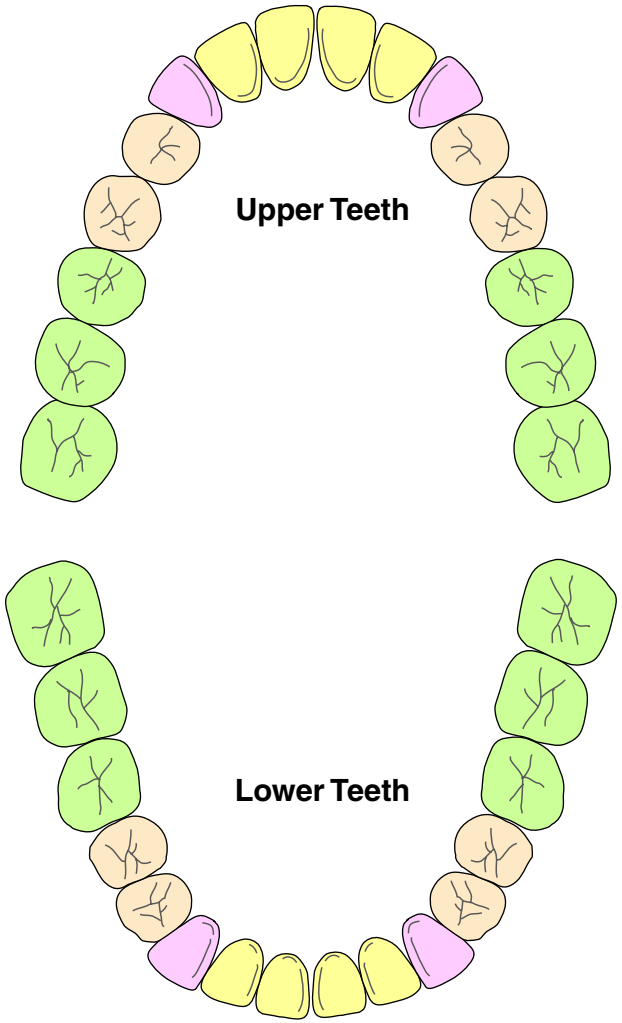
What have you learned?_____

_____

_____

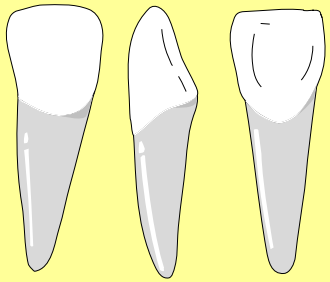
Tooth Types

Humans have four types of permanent teeth: **incisors**, **canines**, **premolars,** and **molars**.

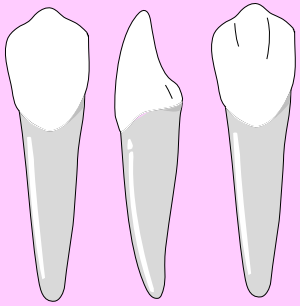


Each tooth type has a special use when we bite and chew food.

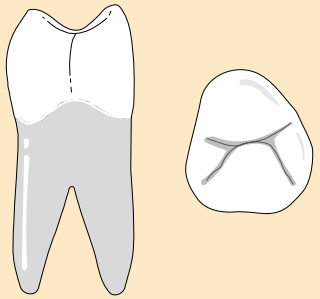
Incisors
have a sharp biting surface and are used for cutting food into small chewable pieces



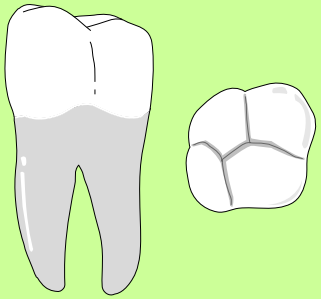
Canines
also called cuspids, have a sharp, pointed biting surface to grip and tear food.



Premolars
also called bicuspids, have a flat biting surface used to tear and crush food.



Molars
are the largest teeth. They have a large flat biting surface to chew, crush and grind food.



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Tooth Types

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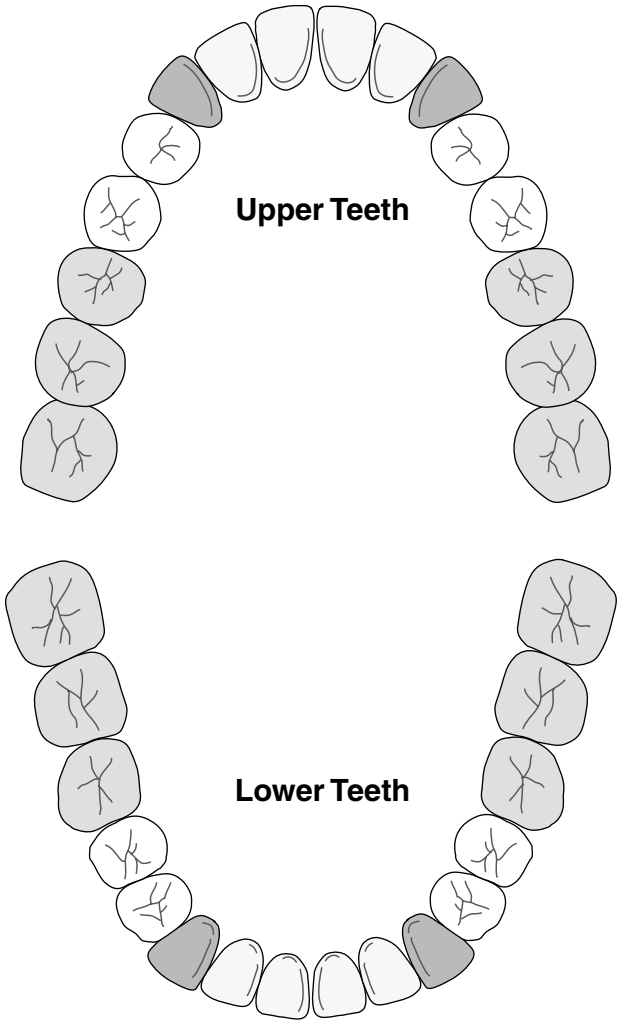
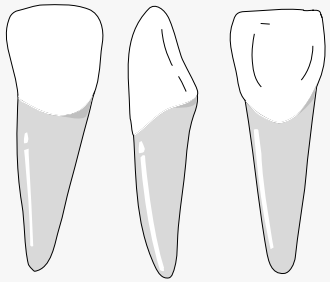
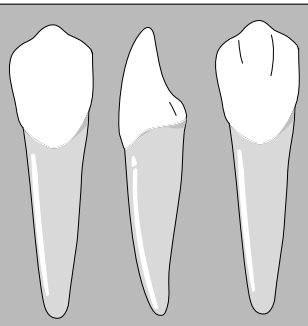


Each tooth type has a special use when we bite and chew food.

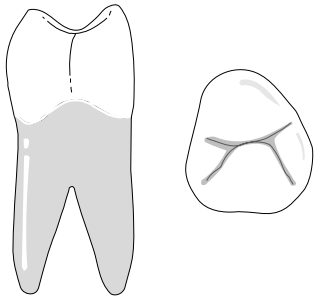
Incisors
have a sharp biting surface and are used for cutting food into small chewable pieces



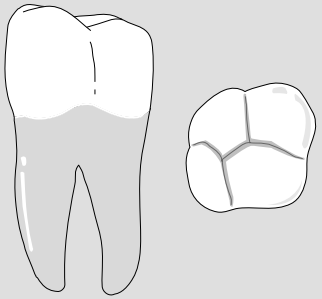
Canines
also called cuspids, have a sharp, pointed biting surface to grip and tear food.



Premolars
also called bicuspids, have a flat biting surface used to tear and crush food.



Molars
are the largest teeth. They have a large flat biting surface to chew, crush and grind food.



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Types of Teeth and Function Review

Types of Teeth

Incisors	Canines/Cuspids
Premolars/Bicuspids	Molars

Teeth Functions

Grind	Tear
Crush	Cut

Type _____

Function: _____

Type _____

Function: _____

Type _____

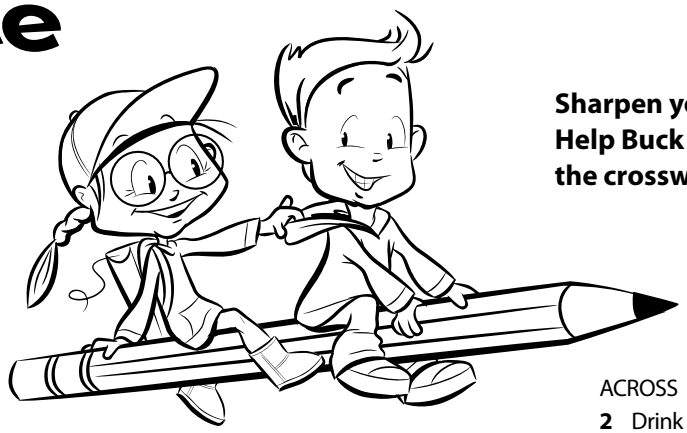
Function: _____

Type _____

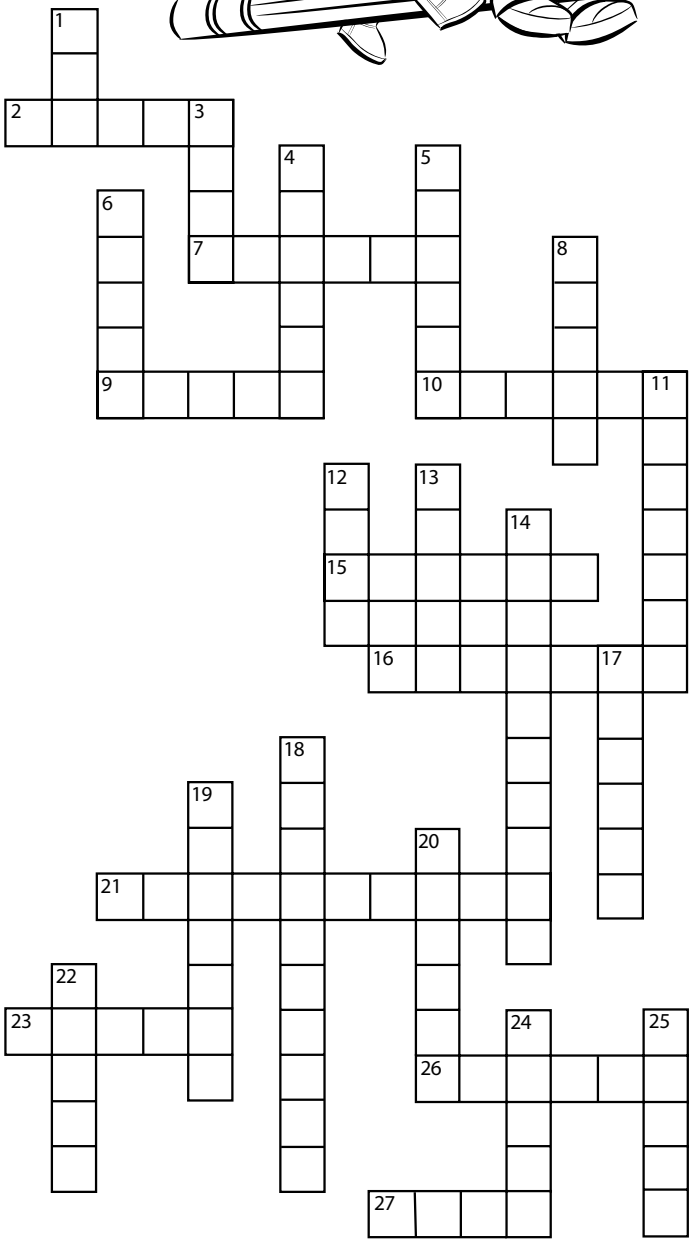
Function: _____

February is National Children's Dental Health Month

Crossword Puzzle



Sharpen your pencils!
Help Buck and Flossy complete the crossword puzzle!



ACROSS

2 Drink this instead of soda pop.

7 A _____ hygienist cleans your teeth at the densist's office.

9 Grin

10 Limit between meal _____.

15 A dentist uses this to help see all your teeth.

16 Visit your _____ regularly

21 Broccoli and carrots are nutritious _____.

23 The part of a tooth that you can see is called the _____.

26 The hard outer layer of a tooth.

27 Your first teeth.

DOWN

1 Use only a _____-sized amount of toothpaste when you brush.

3 Flossy loves to _____ books.

4 Don't forget to brush your _____.

5 _____ are the teeth in the back of your mouth used for grinding food.

6 Flossy and Buck are _____.

8 Brush your teeth at least _____ a day.

11 What your dentist applies to protect teeth from decay.

12 They hold your teeth in place.

13 Most kids have all their baby teeth by the time they are _____ years old.

14 Use this to keep teeth clean.

17 Buck loves to play _____.

18 Wear this to protect your smile while playing sports.

19 Buck and Flossy's last name is _____.

20 If not removed, can lead to cavities.

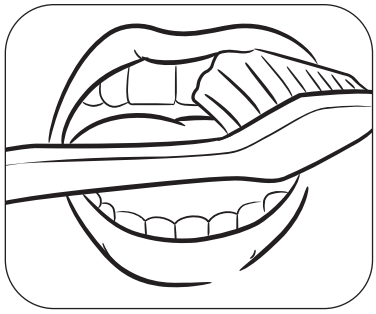
22 Pictures of your teeth.

24 Only eat sparingly to keep your smile healthy.

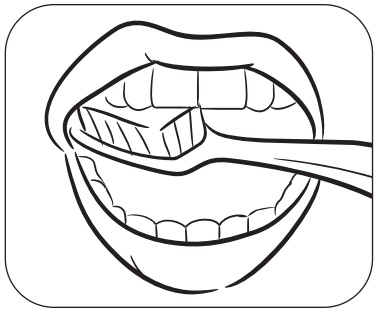
25 Clean between your teeth with dental _____.

Upper Row
Molars
Bicuspids
Cuspid
Incisors
Fold
Name
Lower Row
Molars
Bicuspids
Cuspid
Incisors
Fold

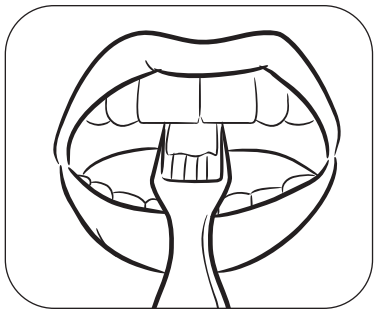
How to Brush



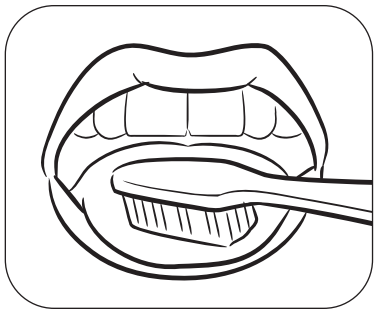
- Place the toothbrush at a 45-degree angle to the gums.



- Move the brush back and forth gently in short strokes.



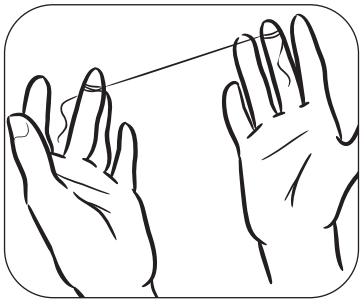
- Brush the outer surfaces, the inside surfaces and the chewing surfaces of all teeth.



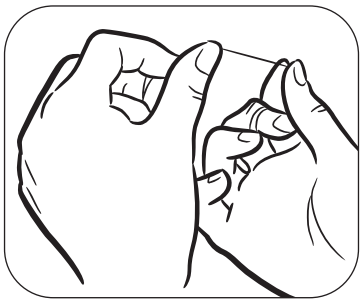
- To clean the inside surface of the front teeth, tilt the brush vertically and make several up-and-down strokes.

- Brush your tongue to remove bacteria and keep your breath fresh.

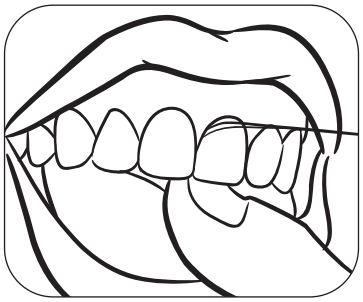
How to Floss



- Use about 18 inches of floss wound around one of your middle fingers, with the rest wound around the opposite middle finger.



- Hold the floss tightly between the thumbs and forefingers and gently insert it between the teeth.



- Curve the floss into a "C" shape against the side of the tooth.

- Rub the floss gently up and down, keeping it pressed against the tooth. Don't jerk or snap the floss.

- Floss all your teeth. Don't forget to floss behind your back teeth.

February is National Children's Dental Health Month

It's Math Time

Can you help Flossy find the answer to this math mystery?
Follow the clues below to get the answer!

20 minutes – this is how long acids can attack your teeth each time you have sugary foods or drinks. If you have two sugary treats every day, how long have your teeth been attacked by acids at the end of a year?

20 X 2 sugary drinks or snacks per day = ☐

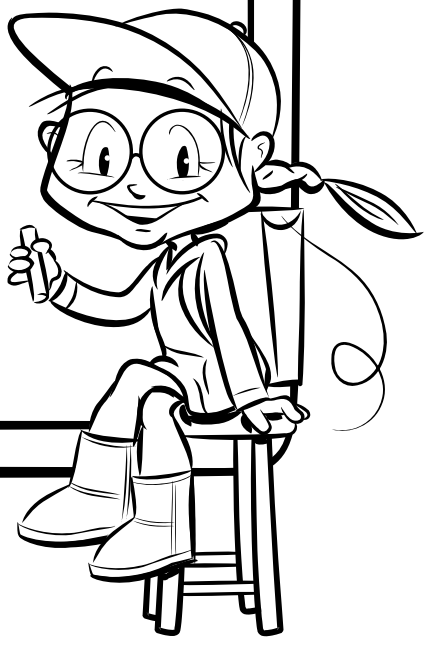
☐ X 7 days per week = ☐

☐ X 4 weeks per month = ☐

☐ X 12 months per year = ☐

☐ ÷ 60 minutes in an hour = ☐ hours per year!

Limit sugary foods and drinks!
When your tooth enamel is eaten away by acids, it doesn't grow back!



Answer 224 hours

ADA American Dental Association®

Oral Care Calendar

Put a happy face in the box when you brush twice each day.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐
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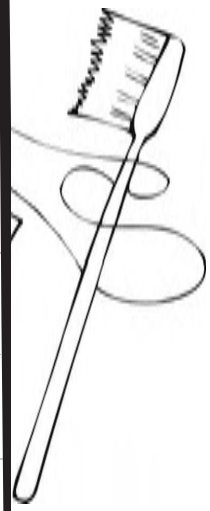
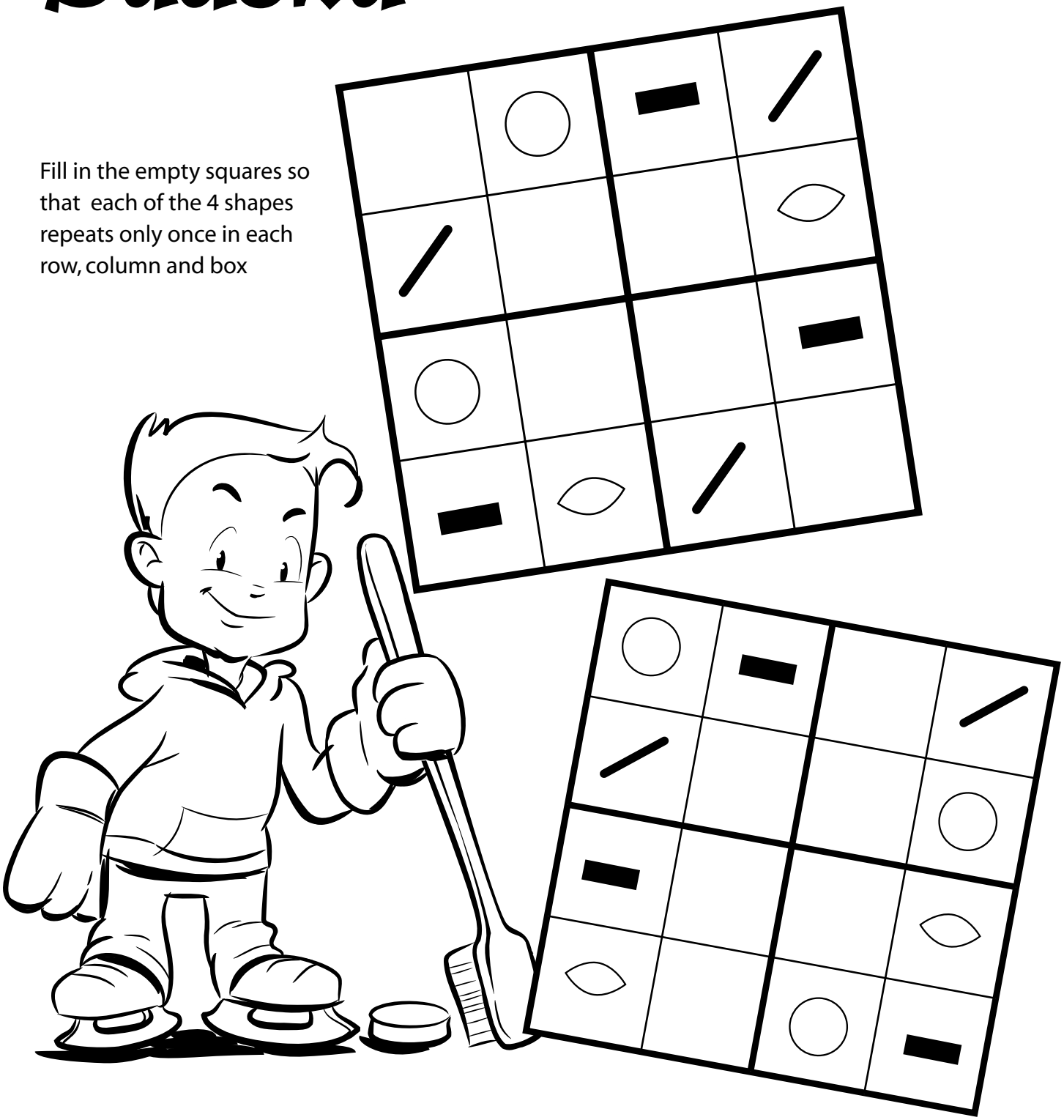


February is National Children's Dental Health Month

Sudoku

Fill in the empty squares so that each of the 4 shapes repeats only once in each row, column and box



ADA American Dental Association®

Teeth to Treasure!
Word Search Challenge

See how many words you can find in 20 minutes!
Words go across, up, down, and diagonal.

K E F Q J S P M O D K R D G C Q T M T E
M Z K L D W E B O T P O H R K S E O C U
X D G M O F C L S U C O B T I W O R E Q
D A I L Y S W N B A T T D T J T S L D A
A S G L E B S O V A J H N B H W P P I L
H C E K I L C I F S T E G B E N I R R P
E T S A P H T O O T D E R U J J L E O G
P J U V L Y M F C S L U G A A N N V U J
T D L E M A N E U Z S E O E Y R E E L U
O E O O X B N G O H Y V F R V M D N F F
B F V Q A E A T K X V L J T A P K T A U
A S U N U R Y P X P K L A D F L E I K P
C L N G W Q H T O O T E H N R Q T O V H
C S N I H V L G K Z M W A J U B P N A X
O O M I A N X G I X A N A F I X P Z R H
T F I U A R V U C Z K H Z U T Z B A L D
U I U Y G C G C P P B V X K P J Y S R Z
P R I M A R Y Z A T E K Y L V P I R F J
I I U J M I L K I K M O G N T L Z I L B
B Q L X O I W D L A E H V L E U Z L I E

CAVITY	FRUIT	MILK	ROOT	TOOTHBRUSH
DAILY	GRAINS	MOUTHGUARD	SEALANT	TOOTHPASTE
DENTIST	GUMS	ORAL	SUGAR	VEGETABLES
ENAMEL	JAW	PLAQUE	TOBACCO	XRAY
FLOSS	LIPS	PREVENTION	TONGUE	
FLUORIDE	MEAT	PRIMARY	TOOTH	

MONTANA
Department of Public Health & Human Services

NUTRITION

Family and Community Health Bureau *Oral Health Education*

A Close Look at MyPyramid For Kids

MyPyramid for Kids reminds you to be physically active every day, or most days, and to make healthy food choices. Every part of the new symbol has a message for you. Can you figure it out?

Be Physically Active Every Day

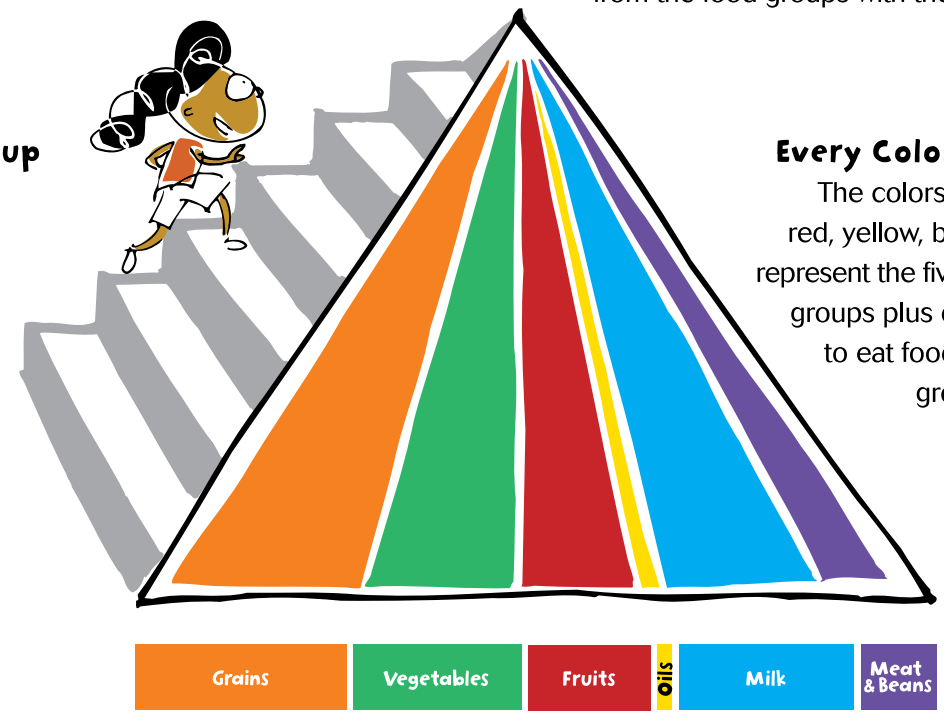
The person climbing the stairs reminds you to do something active every day, like running, walking the dog, playing, swimming, biking, or climbing lots of stairs.

Eat More From Some Food Groups Than Others

Did you notice that some of the color stripes are wider than others? The different sizes remind you to choose more foods from the food groups with the widest stripes.

Choose Healthier Foods From Each Group

Why are the colored stripes wider at the bottom of the pyramid? Every food group has foods that you should eat more often than others; these foods are at the bottom of the pyramid.



Every Color Every Day

The colors orange, green, red, yellow, blue, and purple represent the five different food groups plus oils. Remember to eat foods from all food groups every day.

Make Choices That Are Right for You

MyPyramid.gov is a Web site that will give everyone in the family personal ideas on how to eat better and exercise more.

Take One Step at a Time

You do not need to change overnight what you eat and how you exercise. Just start with one new, good thing, and add a new one every day.

Lesson 1:
Getting the Most Nutrition From Your Food

Lesson Highlights

Objective

Students will:

- Review the content of *MyPyramid for Kids*, identifying food groups and important nutrition messages relating to each food group.
- Chart the foods they eat during 1 day and place each food into the appropriate food group.
- Explore the concept of choosing the healthier foods from each group and discuss examples from all the food groups.

Curriculum Connections:
Math, Science, Language arts

Student Skills Developed:

- Analysis and recordkeeping
- Understanding and interpreting visual data
- Understanding scientific inquiry

Materials:

- *MyPyramid for Kids* classroom poster
- *MyPyramid for Kids* black-and-white handout for each student
- *MyPyramid Worksheet* for each student
- Access to the *MyPyramid.gov* Web site during class, in the computer lab, or at home

Getting Started:

Hang the *MyPyramid for Kids poster* (full-text side) where everyone can see it. Pass out the black-and-white *MyPyramid for Kids* handout to each student. Review the food groups and messages with your students. Have students follow along and write the name of the food groups on the handout.

Here are some points to discuss with your students:

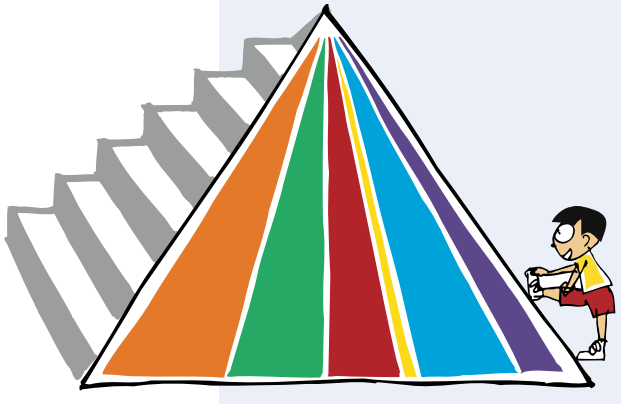
- **Make half your grains whole.** Whole grains are higher in fiber and some nutrients than other grains. Look for whole wheat or other whole grains on the ingredient label of bread bags and cereal boxes. It should be the first thing listed. Ask your students whether they can name other grains *(oats, rye, corn)*. Most grains are ground into flour, then made into grain foods like cereals, bread, and tortillas. Popcorn is a whole grain too.
- **Vary your veggies.** Most people do not eat enough vegetables, especially dark green and orange vegetables. Ask students if they can name dark green and orange vegetables (*broccoli, collard greens, dark green leafy lettuce, kale, romaine lettuce, spinach, butternut squash, carrots, pumpkin, and sweet potatoes*). Vegetables have vitamins and minerals that are important for a healthy body.
- **Focus on fruits.** Variety is important. Tell students they should try to eat different colors of fruit such as oranges, cantaloupes, strawberries, grapes, and blueberries. Juice drinks should be 100% juice.
- **Get your calcium-rich foods.** Milk and milk products are sources of calcium. Tell students that they are at an age when calcium is most important because their bones are growing quickly. Ask them to name other milk products (*cheese, yogurt, ice cream*). Check the labels for fat content. (*Students may be interested to learn that there is calcium in dark green leafy vegetables, but it takes a lot to equal the calcium in a glass of milk.*)
- **Go lean with protein.** Protein is needed for growth; however, many Americans eat too much protein. Extra calories of any kind get turned into fat. (*Students will learn more about protein in Lesson 2.*)
- **Physical activity.** *MyPyramid for Kids* focuses on physical activity. Ask students whether they get 60 or more minutes of physical activity per day. Do they think most kids do? Why or why not?

- **Point out** that *MyPyramid for Kids* gives the amounts to eat in ounces and cups – ounces for the grain and meat and beans groups and vegetables, fruit, and milk are given in cups.

Note: ounce equivalents for grains can also be measured in cups, e.g., 1 cup ready-to-eat cereal or ½ cup cooked cereal, and ounce equivalents for meats and beans can also be measured in tablespoons, e.g., peanut butter.

Getting the most nutrition from your food:

- Ask your students if they know why the food group stripes are wider at the bottom of *MyPyramid for Kids*. Explain that every food group has foods that you should eat more often than others; these are at the bottom of *MyPyramid for Kids*. The wider stripes at the bottom remind you to eat more of these healthier foods.
- Explain that the foods at the bottom of *MyPyramid for Kids* provide vitamins and minerals without a lot of solid fat or added sugar. Examples include: a slice of whole-wheat bread, a piece of fruit, steamed vegetables, fat-free milk, or a baked chicken breast. Tell your students that they should choose these foods most often because it is important to get the nutrients the body needs without eating too much solid fat or added sugar.
- Foods with higher amounts of solid fat and added sugar are in the narrower top area of *MyPyramid for Kids*. Tell students that occasionally everyone can enjoy these foods (for example, cake, candy, sweetened drinks, chips, and fried foods). But, eating too many of the foods from the top of *MyPyramid for Kids* could lead to weight gain.



- Every food group has foods that fall into the bottom and the top of *MyPyramid for Kids*. Here are some examples. Recreate the main text of the chart below on the board and discuss why the foods have been placed in each category. (The explanations in italics are points you might make.)

MyPyramid for Kids Food Group Stripes

Food Groups	Wider Area	Narrower Area
Grains	**Whole-wheat bread**	**Doughnut**
	Explanation: *Whole-wheat bread is a whole grain food with little fat. But doughnuts are fried and have lots of fat and added sugar.*	
Vegetables	**Baked sweet potato**	**French fries**
	Explanation: *Baked sweet potato is an orange vegetable full of vitamins and minerals and it doesn't need butter or sugar to taste good! The French fries are also potatoes, but they are fried and have a lot of fat.*	
Fruits	**Peach**	**Peach pie**
	Explanation: *Fresh peaches are in their most natural form and have a lot of vitamins and minerals. A slice of peach pie has less than one peach and has a lot of added sugar and fat.*	
Milk	**Lowfat frozen yogurt**	**Ice cream**
	Explanation: *Both lowfat frozen yogurt and ice cream are desserts made from milk. The lowfat frozen yogurt is usually made from fat-free milk, while the ice cream is often made with cream, which is higher in fat.*	
Meat and Beans	**Baked fish**	**Fried fish**
	Explanation: *Fish has lots of protein. The amount of fat depends on the way it has been cooked. Fried fish is much higher in fat than baked fish.*	

- Ask your students if they can think of other foods in each food group that belong on the top and bottom of *MyPyramid for Kids*. Have them write in their ideas on the *MyPyramid for Kids* black-and-white handout.

Activity: *MyPyramid Worksheet*

Pass out the *MyPyramid for Kids Worksheet* to students. Ask students to fill out the worksheet by listing all the foods (and the amounts) they ate yesterday for breakfast, lunch, dinner, and snacks. After students have completed this task, have students categorize the foods they ate yesterday into food groups. (You may need to help students with combination foods. For example, a slice of pizza would fit into several food groups such as grains, vegetables, milk, and meat and beans.) Next, have them list their physical activity and time spent on each activity. Then have the students rate how they did yesterday and set goals for tomorrow.

Group Activity: Play the *MyPyramid Blast-Off* Game

As a follow-up to the lesson, have students play the *MyPyramid Blast-Off* Game on the enclosed CD ROM or at *teamnutrition.usda.gov* or *MyPyramid.gov* educators' page. In this game, students see if they can make the *MyPyramid* rocket fly. To do this they need to fill the rocket with the right "fuel"— a day's worth of smart food choices and physical activity. They will use the knowledge learned from this lesson to help them make the best choices. After students have played the game, ask what they have learned.

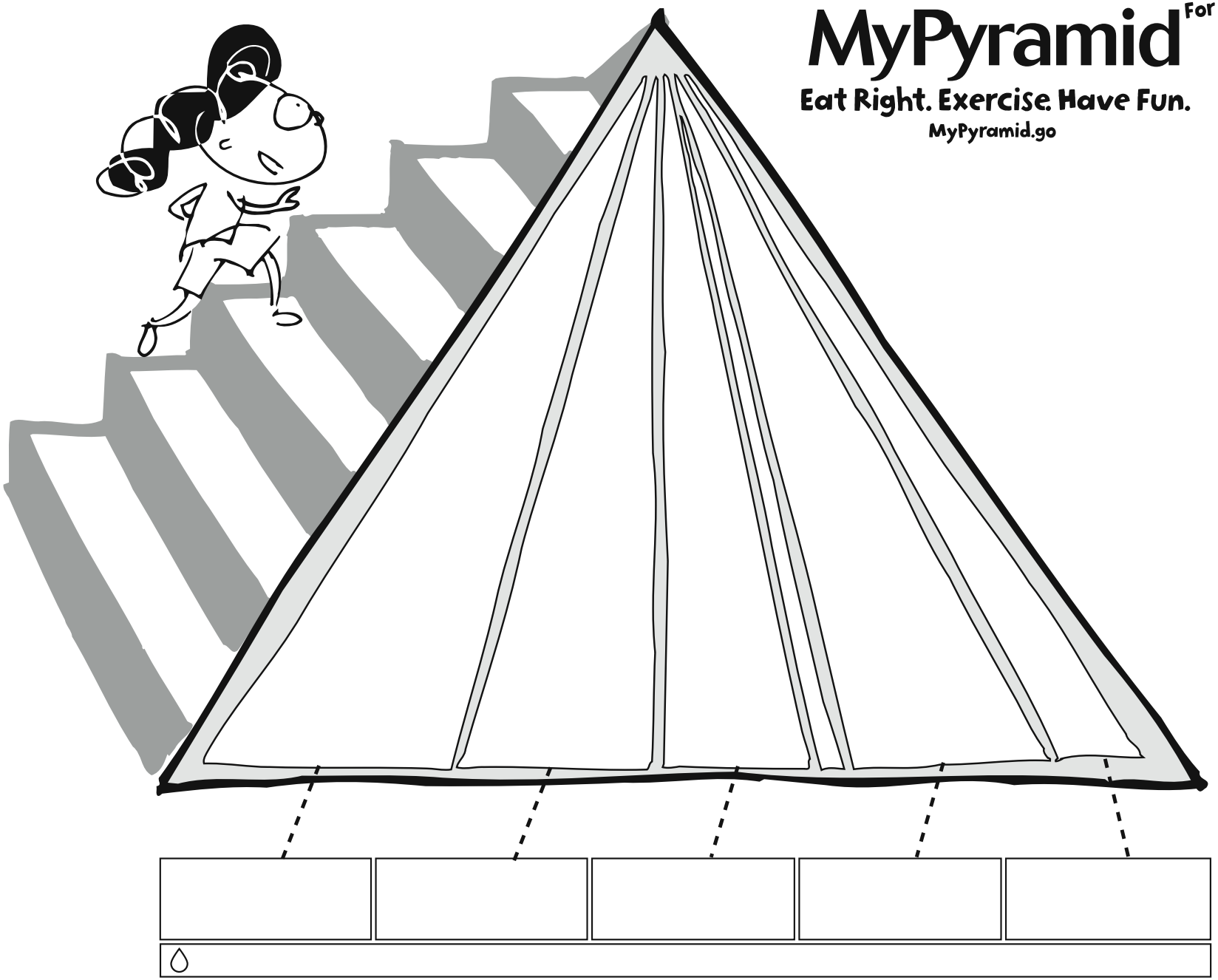
Lunchroom Link:

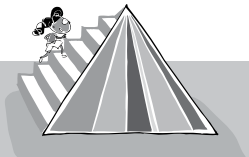
Have students analyze 1 week of lunchroom menus, identifying which foods come from each of the food groups and if the foods fit on the top or bottom of *MyPyramid for Kids*.

MyPyramid For Kids

Eat Right. Exercise. Have Fun.

MyPyramid.go



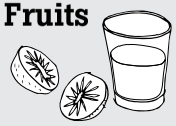
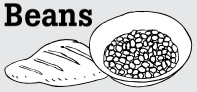


MyPyramid Worksheet

Name: _____

MyPyramid FOR KIDS

Check how you did yesterday and set a goal to aim for tomorrow

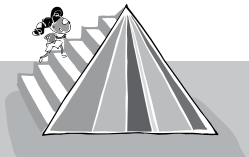
Write In Your Choices From Yesterday	Food and Activity	Tip	Goal (Based On a 1800 Calorie Pattern)	List Each Food Choice In Its Food Gruop*	Estimate Your Total
Breakfast:	**Grains** 	Make at least half your grains whole grains.	**6 ounce equivalents** (1 ounce equivalent is about 1 slice bread, 1 cup dry cereal, or ½ cup cooked rice, pasta, or cereal)		_____ ounce equivalents
Lunch:	**Vegetables** 	Color your plate with all kinds of great tasting veggies.	**2½ cups** (Choose from dark green, orange, starchy, dry beans and peas, or other veggies).		_____ cups
Snack:	**Fruits** 	Make most choices fruit, not juice.	**1½ cups**		_____ cups
Dinner:	**Milk** 	Choose fat-free or lowfat most often.	**3 cups** (1 cup yogurt or 1½ ounces cheese = 1 cup milk)		_____ cups
Physical activity:	**Meat and Beans** 	Choose lean meat and chicken or turkey. Vary your choices—more fish, beans, peas, nuts, and seeds.	**5 ounce equivalents** (1 ounce equivalent is 1 ounce meat, chicken or turkey, or fish, 1 egg, 1 T. peanut butter, ½ ounce nuts, or ¼ cup dry beans)		_____ ounce equivalents
	Physical Activity 	Build more physical activity into your daily routine at home and school.	At least **60 minutes** of moderate to vigorous activity a day or most days.		_____ minutes

How did you do yesterday? ☐ Great ☐ So-So ☐ Not So Great

My food goal for tomorrow is: _____

My activity goal for tomorrow is: _____

* Some foods don't fit into any group. These "extras" may be mainly fat or sugar—limit your intake of these.



Lesson 2:
Eating Out and Eating In – Go Lean With Protein

Lesson Highlights

Objectives

Students will:
- Identify foods in the meat and beans group.
- Analyze food choices from fast food restaurants, choosing lower fat alternatives.

Curriculum Connections:
Math, Language arts, Health

Student Skills Developed:
- Using viewing skills and strategies to understand and interpret visual media
- Reading and interpreting data from charts
- Recording data

Materials:
- *Where's the Fat?* worksheet for each student
- Computers with Internet access

Getting Started:

- Ask several students to share what they ate for dinner yesterday. Let several students respond. Point out that many students started by naming a food that is a member of the meat and beans group – chicken, hamburger, fish.
- Tell students that these are foods that contain protein. Challenge students to list as many foods as they can from this food group.
- Did students list the plant foods that are part of this group – dry peas and beans? (*black beans, chickpeas, falafel, kidney beans, lentils, lima beans, navy beans, pinto beans, soy beans, split peas, tofu, white beans*) Nuts and seeds? (*almonds, cashews, hazelnuts, mixed nuts, pecans, pistachios, pumpkin seeds, sesame seeds, sunflower seeds, walnuts*) Peanuts and peanut butter? Point out that these foods are staples in many cultures.
- Tell students that all these foods include protein. Scientists sometimes call protein the building block for bones, muscles, cartilage, skin, and blood.
- Point out that most people get enough of these foods. One of the challenges is in choosing foods from this group that are lower in fat.

Activity: Where's the Fat?

- Hand out the *Where's the Fat*? worksheet. Tell students that it includes information about fat found in many meat and bean foods. Point out that while they probably don't decide what their family is going to eat for dinner, students may select what they eat when their family eats out. Some of their favorite meat and bean foods may be very high in fat.
- Tell students that nearly all chain restaurants have nutrition information available. They can ask for information before they make their choice.
- Have students answer the questions at the bottom of the worksheet. Working in groups, have them list at least three ways they can make lowfat choices.

Group Activity: *MyPyramid* Plan

Have students visit *MyPyramid.gov.* Using the instructions on the site, have students determine their own *MyPyramid Plan*, entering their individual age, sex, and activity level. Then have them print out their own *MyPyramid* worksheet.

Extension Activity:

Many chain restaurants provide nutrition information for all the foods on their menus. This information is usually available online or at the restaurants. Have students collect this information from the chain restaurants where they eat.

Divide students into groups. Each group will have nutrition information from one restaurant. Have each group prepare a short presentation to the class on smart choices from that restaurant's menu.

Lunchroom Link:

Have students review the lunch menu. Find all the protein choices, including proteins from plant foods. Encourage them to make signs that highlight the lean protein choices to advertise to other students.

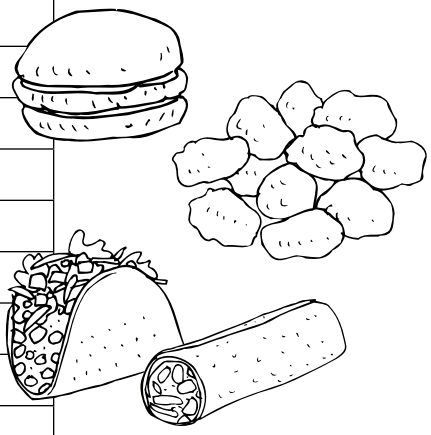
Name: _____

MyPyramid FOR KIDS

Where's the Fat?

Popular Fast Foods

Food	Total Fat (grams)
Hamburger	9
Quarter-pound hamburger	18
Fried fish filet sandwich	18
Crispy fried chicken	23
Chicken nuggets (10 pieces)	24
Beef soft taco without cheese	8
Beef taco, regular style, without cheese	7
Bean burrito, no cheese	8
Taco salad with ground beef, no cheese	39



1. How many grams of total fat are in a quarter-pound hamburger? _____

2. How many grams of total fat are in a regular hamburger? _____

3. Circle the food with less fat:

Taco salad	OR	Beef soft taco
Bean burrito	OR	Fried fish filet sandwich
Crispy fried chicken	OR	Hamburger

4. List three ways you can make lowfat choices when you're eating out.

1. _____

2. _____

3. _____

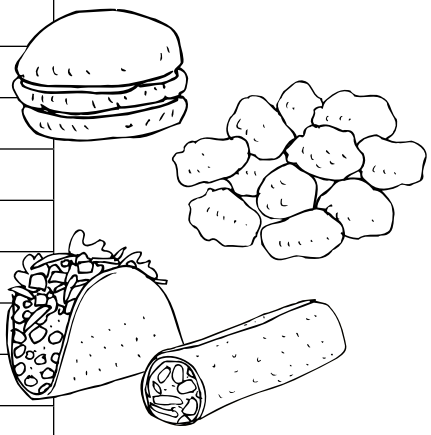
Name:

MyPyramid FOR KIDS

Where's the Fat? Answer Key

Popular Fast Foods

Food	Total Fat (grams)
Hamburger	9
Quarter-pound hamburger	18
Fried fish filet sandwich	18
Crispy fried chicken	23
Chicken nuggets (10 pieces)	24
Beef soft taco without cheese	8
Beef taco, regular style, without cheese	7
Bean burrito, no cheese	8
Taco salad with ground beef, no cheese	39



1. How many grams of total fat are in a quarter-pound hamburger? **Answer: 18 grams**

2. How many grams of total fat are in a regular hamburger? **Answer: 9 grams**

3. Circle the food with less fat:

Taco salad OR **Beef soft taco**

Bean burrito OR Fried fish filet sandwich

Crispy fried chicken OR **Hamburger**

4. List three ways you can make lowfat choices when you're eating out.

1. **Choose grilled *(not fried)***
2. **Choose the smaller size *(hamburger versus the quarter-pound hamburger)***
3. **Look at nutrition information provided by the restaurant before making your selection.**

Lesson 3:
Get Your Calcium-Rich Foods

Lesson Highlights

Objectives

Students will:
- Identify foods in the milk group.
- Identify the health and nutrition benefits from eating foods rich in calcium.
- Analyze food labels to determine which foods contain the most calcium.
- Compare food labels to determine which calcium-rich foods are lowest in fat.

Curriculum Connections:
Math, Health, Science

Student Skills Developed:
- Reading charts
- Thinking skills – making comparisons
- Math computation

Materials:
- *What's on the Label?* handout for each student
- *What's the Score?* worksheet for each student
- Samples of fat-free, 1%, 2%, and whole milk
- Four plastic glasses (for each student trying the taste test)
- Marker

Activity: What's on the Label?

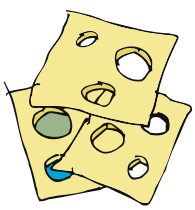
Make the following points about the health benefits of calcium-rich foods:
- Diets that are rich in lowfat and fat-free milk and milk products help build and maintain bone mass.
- Students their age especially need to drink milk, because this is when their bone mass is being built.

Now pass out What's on the Label? handout. Tell students that food labels give them important information about the nutritional value of the food. Discuss the following information with the students:

- Ask students to look for the words "Serving Size" on the labels. In the case of milk, the serving size is 8 fluid ounces – 1 cup.
- Next, have students find first the number of calories in a single serving of the food. Each of the first four labels is for an 8 fluid ounce glass of milk; yet they have a very different number of calories per serving. Why? Because of the fat and sugar content. Look at the calorie content for 1% chocolate milk. It is higher than the calorie content for whole milk. The extra calories come from sugar and chocolate.
- At the bottom of the food label, students will find some numbers followed by percent signs. This is where calcium is listed. Use the % Daily Value (DV) column when possible: 5% DV or less is low, 20% DV or more is high.

Pass out the *What's the Score?* worksheet. Have students complete the chart at the top of the page, filling in numbers from the four nutrition labels for milk. Later, check students' answers.

Next, have students use *What's on the Label?* to help them complete the questions on *What's the Score?* Check student answers and discuss.

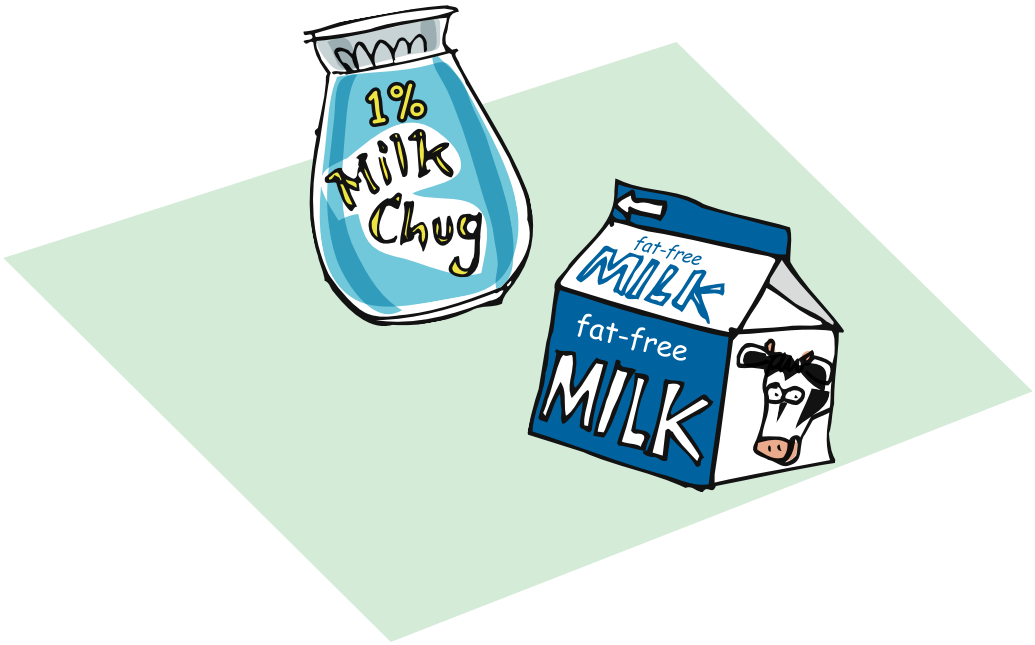


Group Activity: Taste Test

Bring in samples of fat-free, 1%, 2%, and whole milk. With a marker, label four plastic glasses A, B, C, and D. Without showing students what you are doing, pour a small amount of the four types of milk into the glasses. (Prepare one set of glasses for each student participant.)

Now have a student come up to taste each of the four milks. Describe the tastes. Rate each. Repeat with other students trying the taste test.

Later, have students talk about how they can reduce the fat they consume by switching the milk they drink. If they usually drink whole milk, they should switch gradually to 2% milk, then to 1% milk, and finally to fat-free milk.



Lunchroom Link:

Does your school have vending machines? Do they offer milk for sale? If not, perhaps your class could start a campaign to add fat-free or lowfat milk to the choices available in your school vending machines.

Name:

MyPyramid FOR KIDS

What's on the Label?

Milk fat-free

Nutrition Facts
Serving Size 8 fl oz (245g)
Servings Per Container 8

Amount Per Serving	
Calories 90	Calories from Fat 0
	%Daily Value*
Total Fat 0g	**0** %
Saturated Fat 0g	**0** %
Trans Fat 0g	**0** %
Cholesterol < 5mg	**0** %
Sodium 130mg	**5** %
Total Carbohydrate 12g	**4** %
Dietary Fiber 0g	**0** %
Sugars 12g	
Protein 8g	
Vitamin A 10% •	Vitamin C 4%
Calcium 30% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

Milk 1%, chocolate

Nutrition Facts
Serving Size 8 fl oz (245g)
Servings Per Container 8

Amount Per Serving	
Calories 170	Calories from Fat 20
	%Daily Value*
Total Fat 2.5g	**4** %
Saturated Fat 1.5g	**8** %
Trans Fat 0g	**0** %
Cholesterol 5mg	**2** %
Sodium 190mg	**8** %
Total Carbohydrate 29g	**10** %
Dietary Fiber 1g	**5** %
Sugars 27g	
Protein 8g	
Vitamin A 10% •	Vitamin C 6%
Calcium 30% •	Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet.

Milk 2%

Nutrition Facts
Serving Size 8 fl oz (245g)
Servings Per Container 8

Amount Per Serving	
Calories 130	Calories from Fat 45
	%Daily Value*
Total Fat 5g	**8** %
Saturated Fat 3g	**15** %
Trans Fat 0g	**0** %
Cholesterol 20mg	**7** %
Sodium 125mg	**5** %
Total Carbohydrate 13g	**4** %
Dietary Fiber 0g	**0** %
Sugars 12g	
Protein 8g	
Vitamin A 10% •	Vitamin C 4%
Calcium 30% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

Milk whole

Nutrition Facts
Serving Size 8 fl oz (245g)
Servings Per Container 8

Amount Per Serving	
Calories 150	Calories from Fat 70
	%Daily Value*
Total Fat 8g	**12** %
Saturated Fat 5g	**25** %
Trans Fat 0g	**0** %
Cholesterol 35mg	**11** %
Sodium 125mg	**5** %
Total Carbohydrate 12g	**4** %
Dietary Fiber 0g	**0** %
Sugars 12g	
Protein 8g	
Vitamin A 6% •	Vitamin C 4%
Calcium 30% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

Vanilla ice cream

Nutrition Facts
Serving Size 1/2 cup (65g)
Servings Per Container 14

Amount Per Serving	
Calories 140	Calories from Fat 70
	%Daily Value*
Total Fat 7g	**11** %
Saturated Fat 4.5g	**23** %
Trans Fat 0g	**0** %
Cholesterol 20mg	**6** %
Sodium 40mg	**2** %
Total Carbohydrate 15g	**5** %
Dietary Fiber 0g	**0** %
Sugars 15g	
Protein 3g	
Vitamin A 4% •	Vitamin C 0%
Calcium 10% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

American cheese

Nutrition Facts
Serving Size 1 slice (19g)
Servings Per Container 24

Amount Per Serving	
Calories 60	Calories from Fat 40
	%Daily Value*
Total Fat 4.5g	**7** %
Saturated Fat 2.5g	**13** %
Trans Fat 0g	**0** %
Cholesterol 15mg	**5** %
Sodium 250mg	**10** %
Total Carbohydrate 1g	**0** %
Dietary Fiber 0g	**0** %
Sugars 1g	
Protein 3g	
Vitamin A 4% •	Vitamin C 0%
Calcium 20% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

Fruit-flavored yogurt

Nutrition Facts
Serving Size 6 ounces (170g)
Servings Per Container 1

Amount Per Serving	
Calories 170	Calories from Fat 15
	%Daily Value*
Total Fat 1.5g	**2** %
Saturated Fat 1g	**5** %
Trans Fat 0g	**0** %
Cholesterol 10mg	**3** %
Sodium 125mg	**5** %
Total Carbohydrate 33g	**11** %
Dietary Fiber 0g	**0** %
Sugars 30g	
Protein 6g	
Vitamin A 0% •	Vitamin C 0%
Calcium 20% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

Cottage cheese

Nutrition Facts
Serving Size 1/2 cup (119g)
Servings Per Container 4

Amount Per Serving	
Calories 90	Calories from Fat 20
	%Daily Value*
Total Fat 2.5g	**4** %
Saturated Fat 1.5g	**8** %
Trans Fat 0g	**0** %
Cholesterol 15mg	**5** %
Sodium 410mg	**17** %
Total Carbohydrate 6g	**2** %
Dietary Fiber 0g	**0** %
Sugars 5g	
Protein 11g	
Vitamin A 4% •	Vitamin C 0%
Calcium 8% •	Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet.

Name:

MyPyramid FOR KIDS

What's the Score?

Here is a way to compare foods to see which foods are the best choices for you. Answer the questions below for these four foods, using *What's on the Label?*

	Fat-free milk	1% chocolate milk	2% milk	Whole milk
1. What is the serving size for this item?				
2. Is the serving size realistic? *(Is this how much you would normally eat/drink?)*				
3. How many total calories in one serving?				
4. How many total grams of fat in one serving?				
5. What percent of calcium in one serving?				

Based on this information, which type of milk offers the most calcium with the lowest fat?

_____

Now look at *all* the labels on the page. Answer these questions:

1. If Manuel drinks 8 fluid ounces of 1% chocolate milk and eats 6 ounces of fruit-flavored yogurt, how much calcium has he had?_____

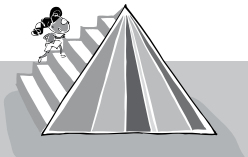
   How many grams of fat? _____

2. Which food item on the sheet has the least calcium with the highest amount of fat?

   _____

3. Which food item on the sheet has the most calcium with the lowest amount of fat?

   _____



Name:

MyPyramid FOR KIDS

What's the Score? Answer Key

Here is a way to compare foods to see which foods are the best choices for you. Answer the questions below for these four foods, using *What's on the Label?*

	Fat-free milk	1% chocolate milk	2% milk	Whole milk
1. What is the serving size for this item?	**1 cup (8 fl oz)**	**1 cup (8 fl oz)**	**1 cup (8 fl oz)**	**1 cup (8 fl oz)**
2. Is the serving size realistic? *(Is this how much you would normally eat/drink?)*				
3. How many calories in one serving?	**90**	**170**	**130**	**150**
4. How many total grams of fat in one serving?	**0**	**2.5**	**5**	**8**
5. What percentage of calcium in one serving?	**30% DV**	**30% DV**	**30% DV**	**30% DV**

Based on this information, which type of milk offers the most calcium with the lowest fat?

Answer: Fat-free

Now look at *all* the labels on the page. Answer these questions:

1. If Manuel drinks 8 fluid ounces of 1% chocolate milk and eats 6 ounces of fruit-flavored yogurt, how much calcium has he had? **Answer: 50% DV**

   How many grams of fat? **Answer: 4 grams**

2. Which food item on the sheet has the least calcium with the highest amount of fat?

   Answer: Vanilla ice cream

3. Which food item on the sheet has the most calcium with the lowest amount of fat?

   Answer: Fat-free milk